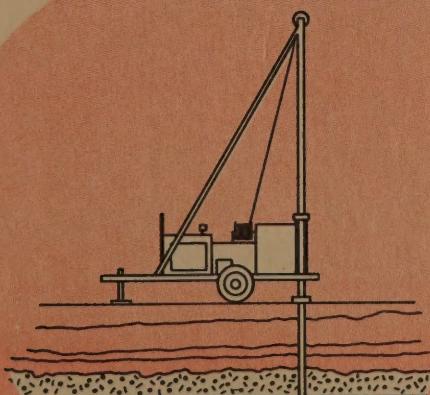
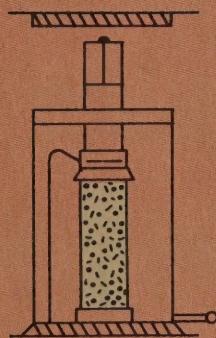


STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION



SOIL MECHANICS
BUREAU

JULY 1987



STA-WAL PERFORMANCE

ROUTE 7 OVER THE B&M RAILROAD
TOWN OF HOOSIC
RENSSELAER COUNTY
PIN 1162.00, D251198

ROUTE 7 OVER THE B & M RAILROAD

TOWN OF HOOSIC

RENSSELAER COUNTY

PIN 1162.00, D251198

STA-WAL PERFORMANCE

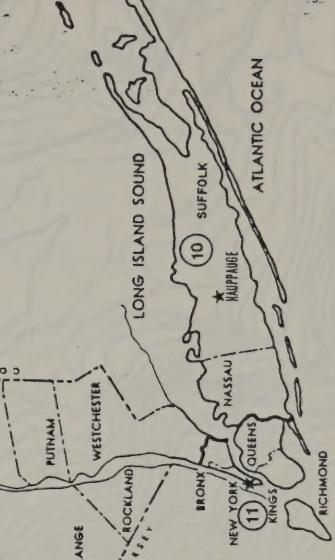
Prepared By

New York State Department of
Transportation

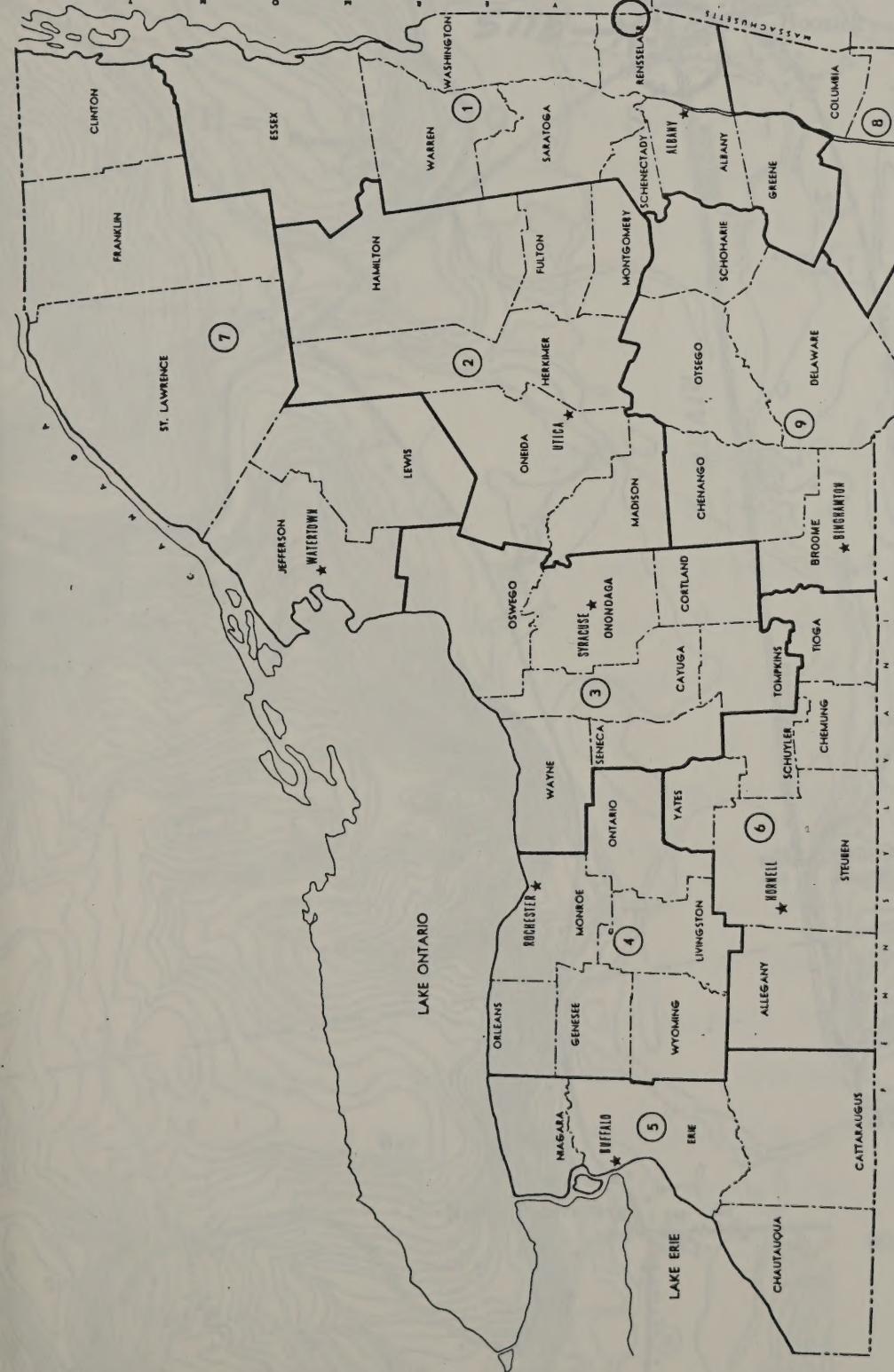
Soil Mechanics Bureau

July 1987

NYS DOT
Library
50 Wolf Road, POD 34
Albany, New York 12232



PROJECT LOCATION



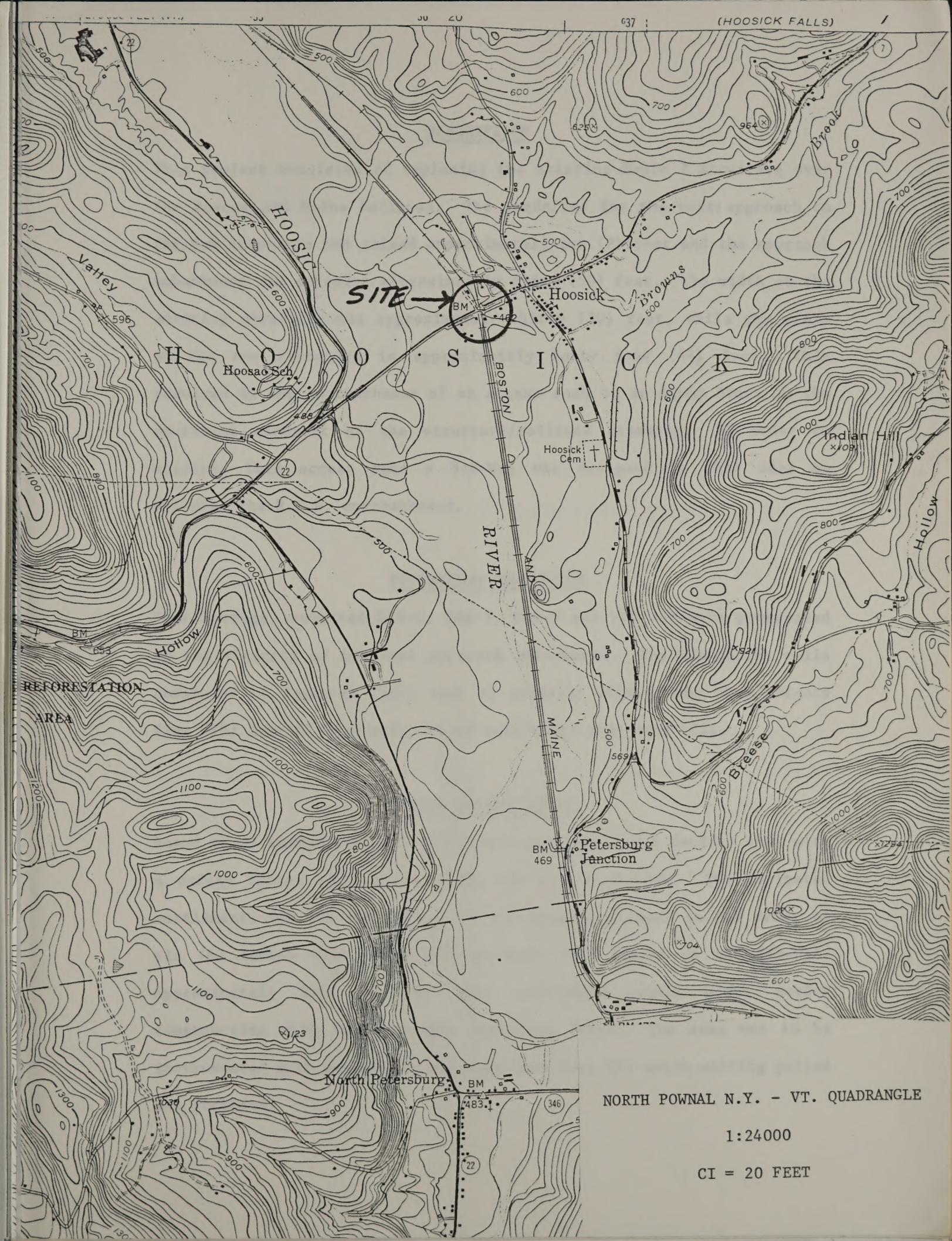
**NEW YORK STATE
DEPARTMENT OF TRANSPORTATION**



- Region Boundaries
- ★ Region Offices
- Region Numbers

SCALE IN MILES

0 5 10 15 20



NORTH POWNAL N.Y. - VT. QUADRANGLE

1:24000

CI = 20 FEET

DESCRIPTION

This project consisted of replacing the existing Route 7 structure over the Boston and Maine Railroad. The gradeline for the west approach to the new structure was raised approximately two (2) feet and the approach embankment was extended approximately fifty (50) feet. The width of the existing structure was approximately thirty (30) feet, while the width of the new structure is approximately forty four (44) feet. This resulted in the encroachment of an access road to an Agway Store in the southwest quadrant of the structure/railroad crossing. In order to maintain this access road a Sta-Wal was designed in this area to minimize the R.O.W. encroachment.

FOUNDATION CONDITIONS

Four borings, numbered DAB-1, DAB-3, DAB-5 and UDH-B-7 were progressed in the vicinity of the west approach embankment. The foundation soils consisted of fourteen (14)± feet of gravelly silt, sandy over seventy five (75) feet of very soft clayey silt/silty clay over till.

DESIGN INVESTIGATION

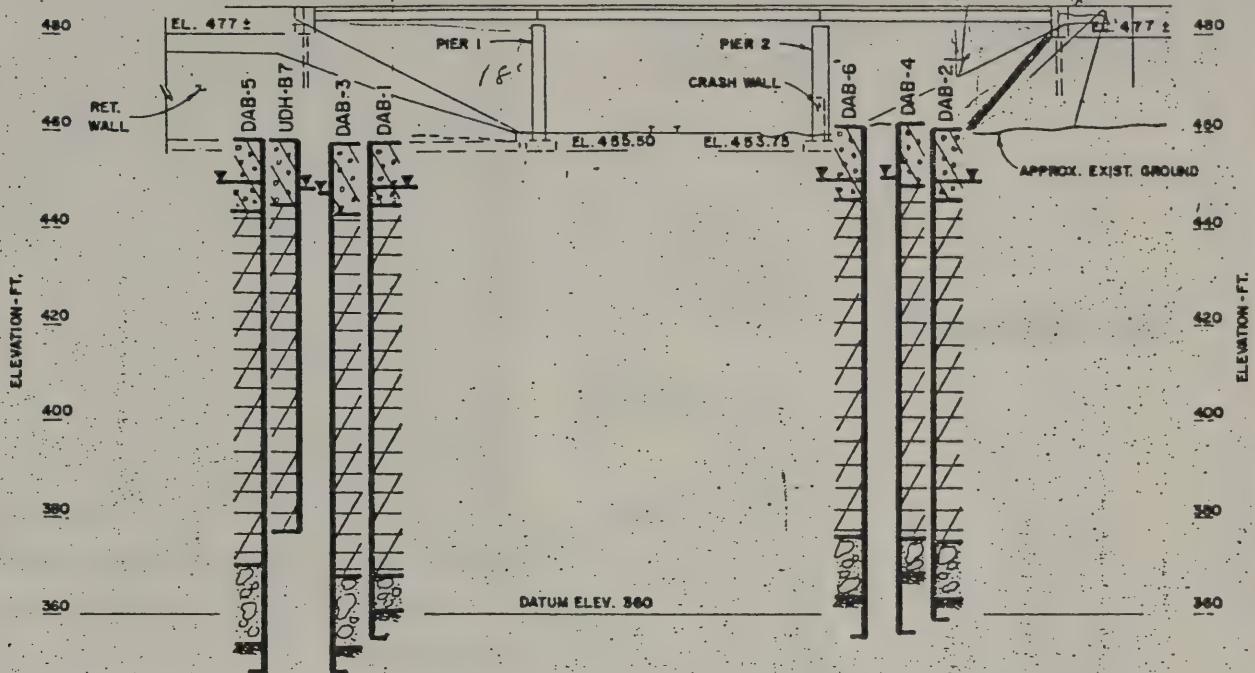
Based on an analysis of the laboratory testing it was decided that with a safety factor of 1.72 stability was not a problem. The estimated settlements for the new portion of the embankment were in the order of six (6) inches with three and one-half ($3\frac{1}{2}$) inches at the Sta-Wal. Approximately half of the wall settlement would occur during construction with the remainder occurring later. The area was to be instrumented with manometers and a maximum four (4) month waiting period was included.

CONSTRUCTION

The approach embankments and Sta-Wal were construction without any difficulty. However, in the fall of 1985 the Engineer-In-Charge noticed some hairline cracking in some Sta-Wal panels. In the summer of 1986 we were asked to review the situation. After an inspection by personnel from this Bureau it was determined that the cracking was insignificant and did not endanger the integrity of the wall. This opinion was reinforced by the fact that the cracks did not increase in size between the fall of 1985 and the summer of 1986. The settlements at the abutment were approximately four and one half ($4\frac{1}{2}$) inches and the settlements at the wall location were approximately two (2) inches.

CONCLUSIONS

It is assumed that the maximum settlement occurred at the highest section of wall with differential settlements being in the range of one quarter ($\frac{1}{4}$) to one half ($\frac{1}{2}$) inches over 30 ft. length of wall. Based on the information available, it is our opinion that the cracking of the panels was not the result of the differential settlements that occurred.



SECTION A-A

BORINGS PROJECTED TO SECTION LINE PARALLEL WITH C BEARINGS
SCALE: 1" = 20'

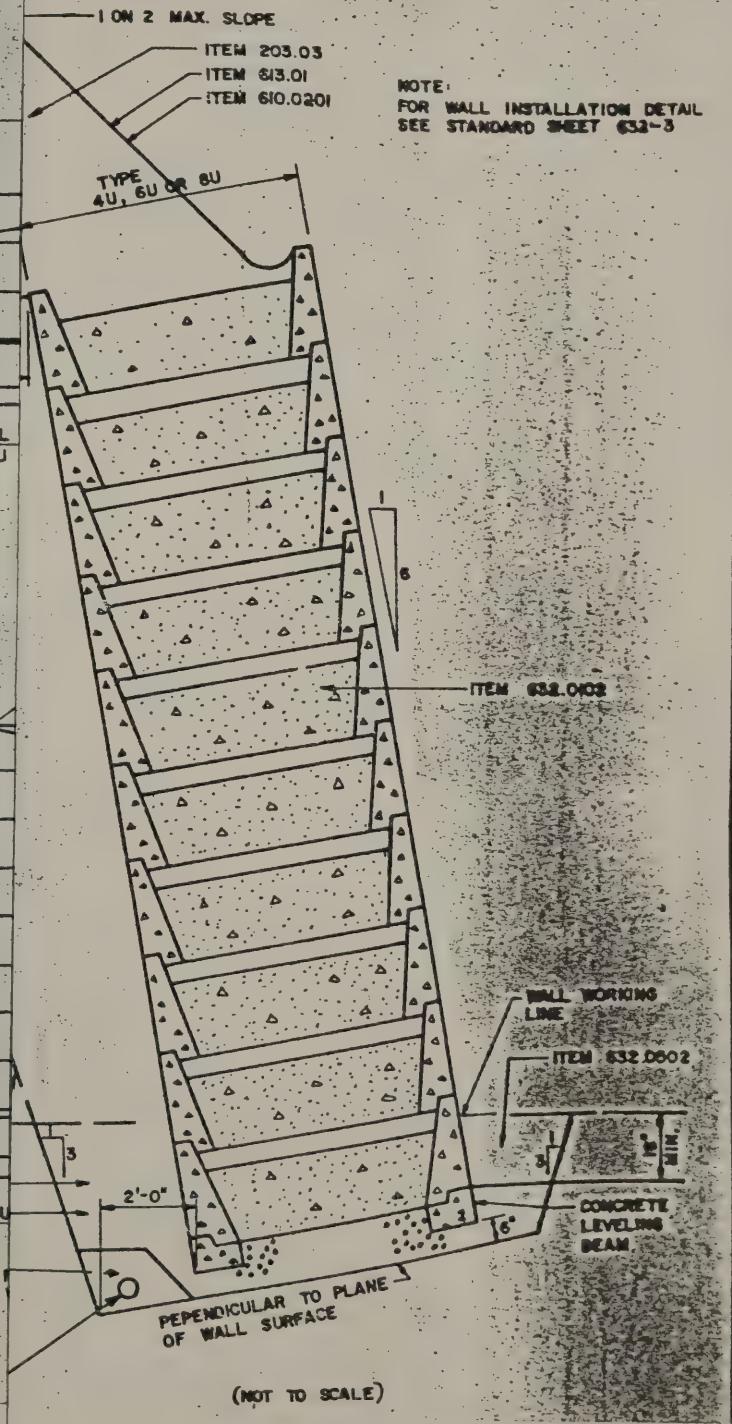
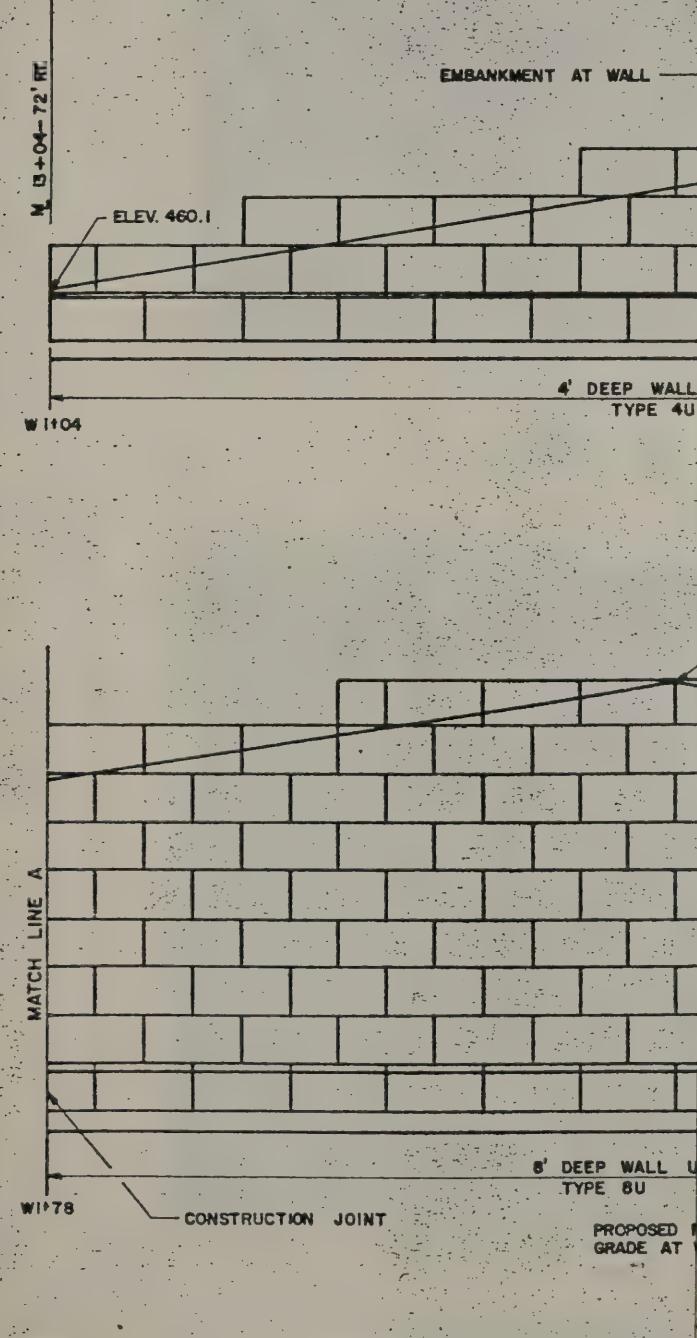
SYMBOLS	
DRILL HOLE	DAB, UDH
OBSERVED WATER LEVEL	
Loose to Medium Compact Brown Gravelly Silt, Sandy.	
Very Soft Gray Layered Clayey Silt and Silty Clay.	
Compact to Very Compact Grey Gravelly Silt, Clayey with Shale Chips.	
LEDGEROCK	

APPROVED 2/28, 1984
W.P. Moody P.E.S.
 DIRECTOR
 SOIL MECHANICS BUREAU
 REGION NO. 1
 COUNTY RENSSELAER
 DWG. NO. 1 SM 221B

STATE OF NEW YORK
 DEPARTMENT OF TRANSPORTATION
 TECHNICAL SERVICES DIVISION
ROUTE 7 OVER B&M RAILROAD
 SURFACE PROFILE

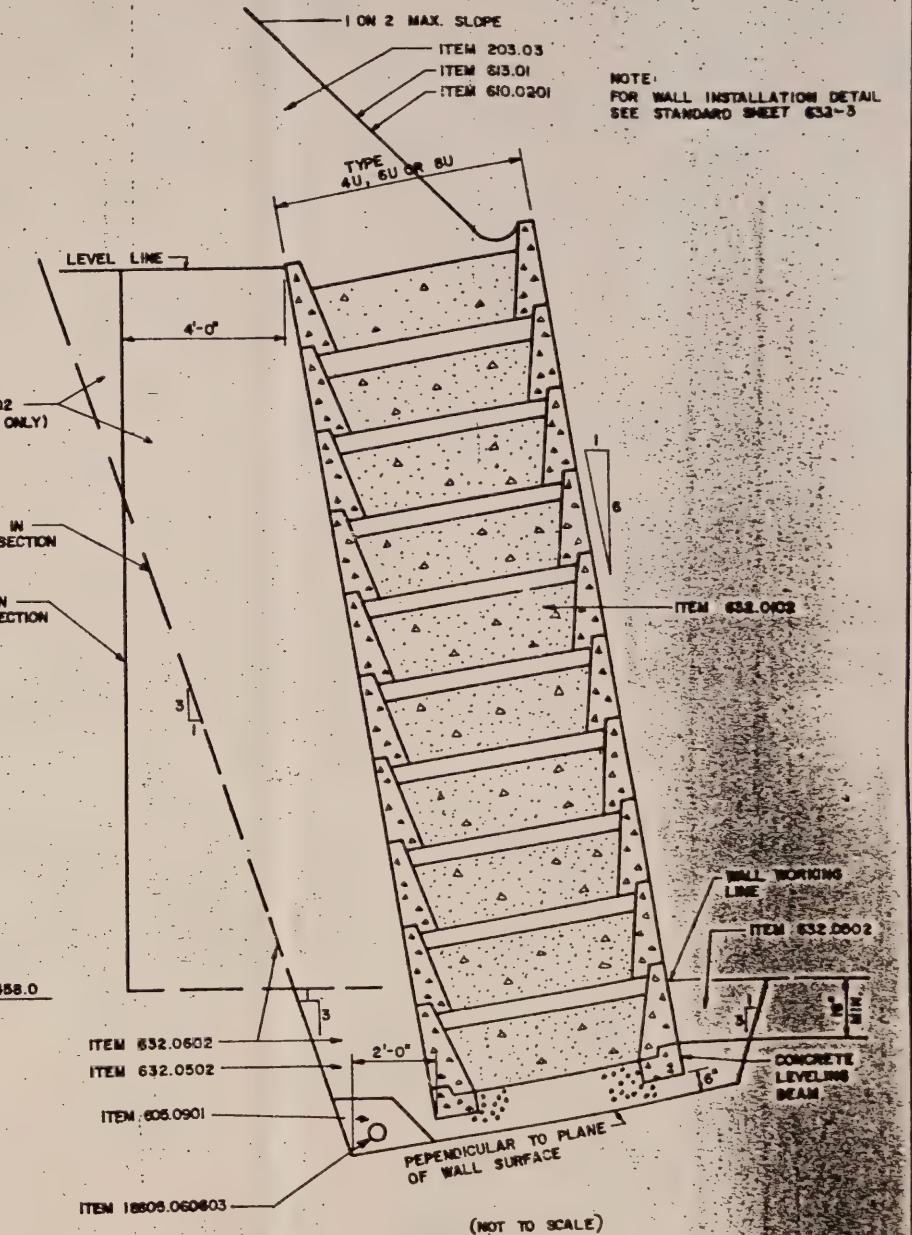
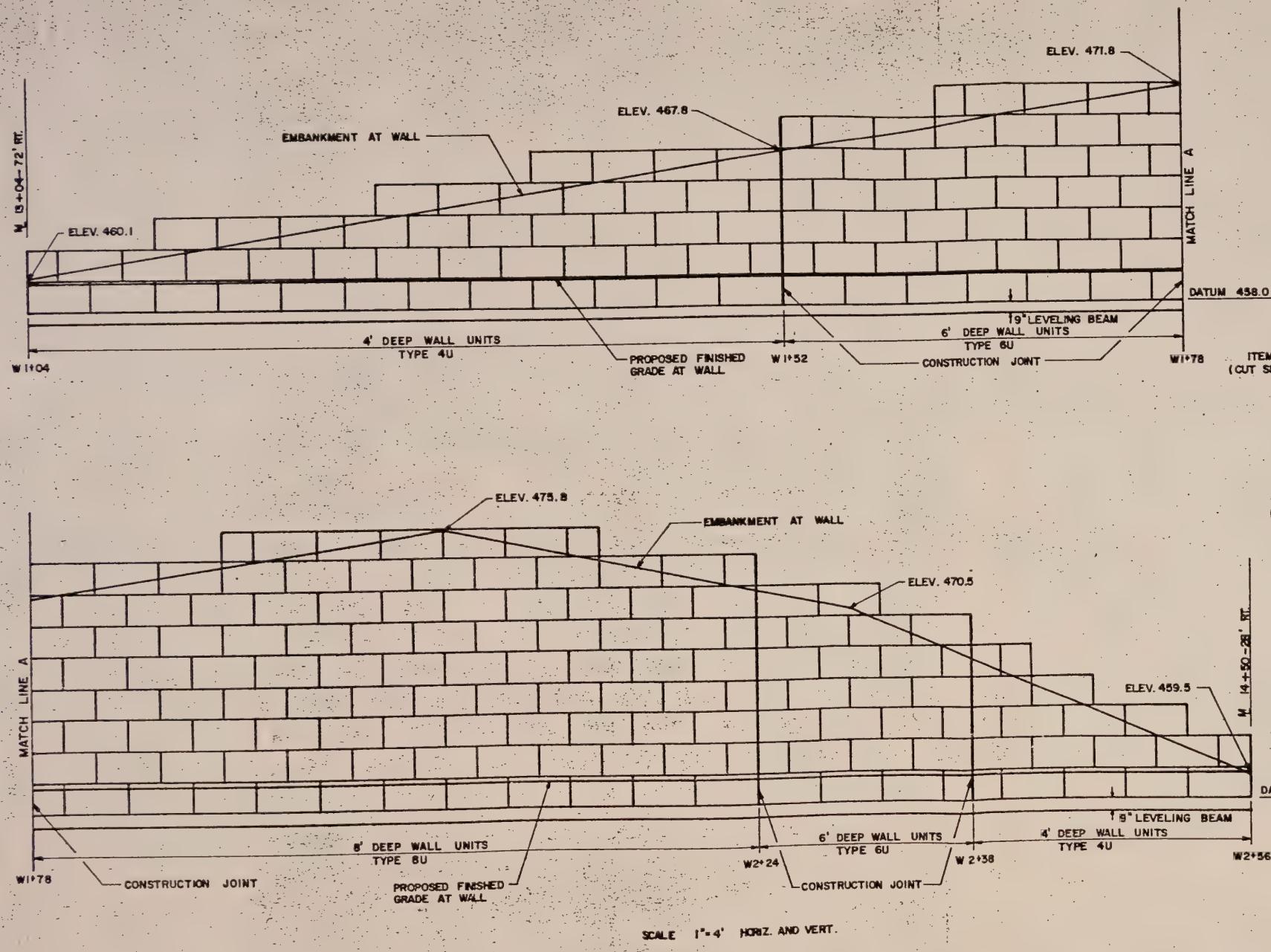
D251198

FED. ROAD REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	BRF-140(6)	35	62
ROUTE 7 OVER THE E. & W. RAILROAD				
TOWN OF HOOSICK PENNSYLVANIA COUNTY				



D251198

FED. ROAD REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	BRF-140.51	35	62
ROUTE 7 OVER THE R. & M. RAILROAD				
TOWN OF HOOSICK PENNSYLVANIA COUNTY				





OVERALL VIEW LOOKING EAST



CLOSEUP OF ROUTED AND SEALED CRACKS

00446



LRI